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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,328	11/14/2003	Bryan Prucher	PBP-111-A	2750

7590 05/13/2005

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EXAMINER

ELVE, MARIA ALEXANDRA

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/714,328

Applicant(s)

PRUCHER, BRYAN

Examiner

M. Alexandra Elve

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Instant claim states, "chrome"; is the applicant referring to chromium? Clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimamura et al. (USPN 5,004,498).

Shimamura et al. discloses an electrode, which is made of dispersion strengthened copper alloy. The copper alloy is placed in a reducing or inert atmosphere and sintered. Sintering and reducing temperatures are not higher than 1065 C (approx. 1940 F). Hydrogen may be used in the furnace environment. The sinter may be placed in a mold prior to sintering or the sinter powder may be hot pressed during sintering. Alloying elements such as tungsten, cadmium, chromium or zirconium are added to the sinter. Secondary processing such as thermal treatments or plastic deformation may

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follow the sintering operation. (abstract, figures, col. 1, lines 15-20, col. 2, lines 42-58, col. 3, lines 10-15, col. 5, lines 40-45, col. 6, lines 3-38; col. 7, lines 58-68, col. 8, lines 5-30, col. 17, lines 14-45, col. 18, lines 35-40)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-14 & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimamura et al. as stated above and further in view of Nadkarni et al. (USPN 4,315,777).

Shimamura et al. does not teach the pressure and density of the sinter.

Nadkarni et al. discloses the sintering of a copper alloy. Pressures of 32,000 to 75,000 psi are used yielding theoretical densities of about 80-90%. (abstract, figures, col. 1, 3, 8-10)

It would have been obvious to one of ordinary skill in the art at the time of the invention to determine the density and pressure, as taught by Nadkarni et al. in the Shimamura et al. system because these are merely processing parameters.

Claims 15-16 & 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimamura et al. and Nadkarni et al. as stated above and further in view of Kato et al. (USPN 5,685,357).

Shimamura et al. and Nadkarni et al. do not teach thixo-molding (semi-solid forming).

Kato et al. discloses forming metallic particle feed material in an injection molding machine. Parts are formed by thixo-molding. This is used to form a variety of metallic parts.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use thixo-molding, as taught by Kato et al. in the Shimamura et al. and Nadkarni et al. system because this is merely a type of forming.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimamura et al. and Nadkarni et al. as stated above and further in view of Prucher (USPN 5,041,711).

Shimamura et al. and Nadkarni et al. do not teach the use of silver in the sinter.

Prucher discloses a spot welding electrode, which uses silver in the sinter.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use silver, as taught by Prucher in the Shimamura et al. and Nadkarni et al. system because of the enhanced electrical properties of the electrode.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimamura et al., Nadkarni et al., Kato et al. and Prucher as stated above and further in view of the following.

Shimamura et al. and Nadkarni et al. do not teach thixo-molding (semi-solid forming) or the use of silver in the sinter.

Kato et al. discloses forming metallic particle feed material in an injection molding machine. Parts are formed by thixo-molding. This is used for form a variety of metallic parts. Prucher disclose a spot welding electrode, which uses silver in the sinter.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use thixo-molding, as taught by Kato et al. and the use of silver as taught by Prucher in the Shimamura et al. and Nadkarni et al. system because of the enhanced product; both mechanically and electrically.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 11, 2005.

A handwritten signature in black ink, appearing to read 'M. Elve', with a long horizontal line extending to the right.

M. Alexandra Elve
Primary Examiner 1725